Signed - Sealed

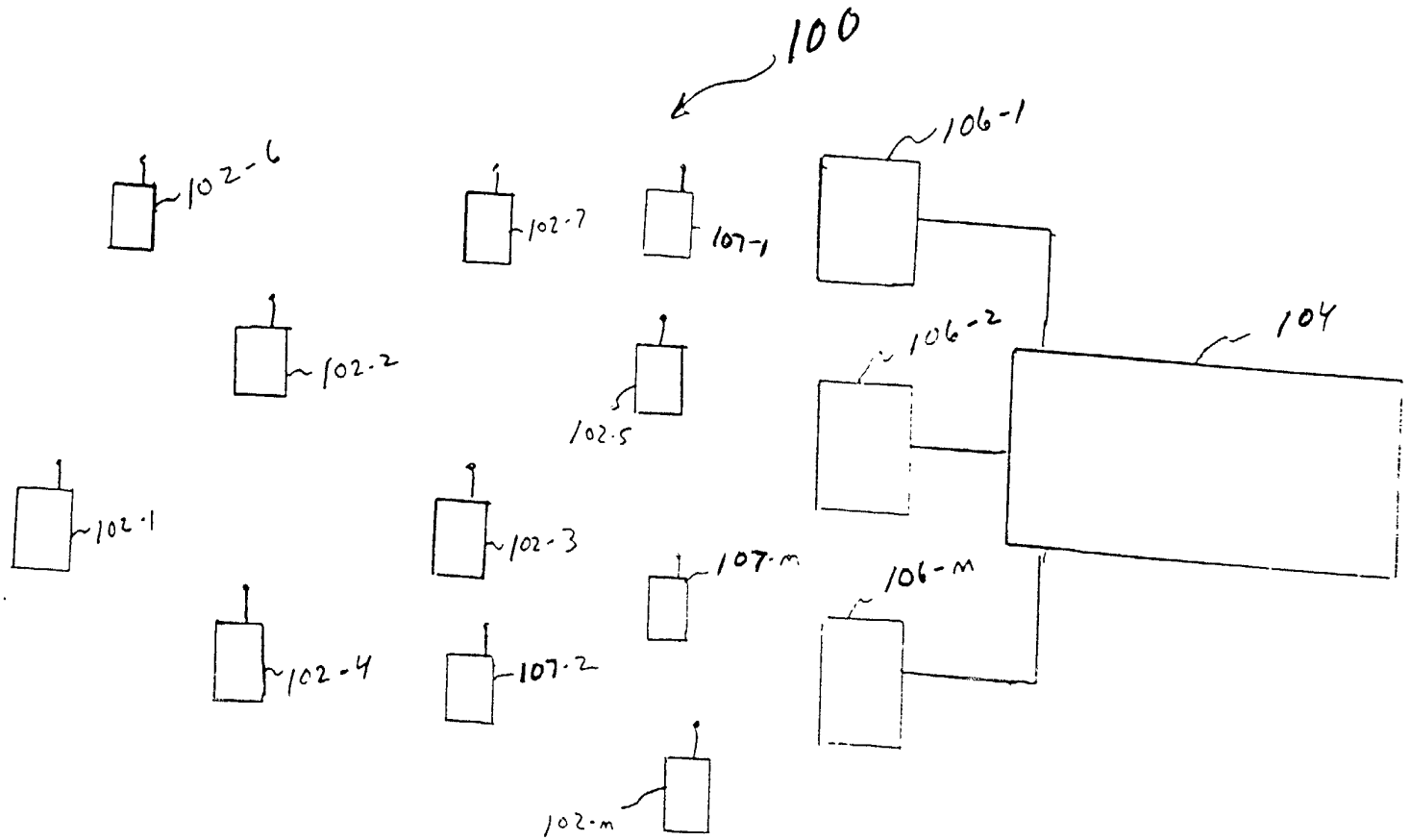

FIG. 1

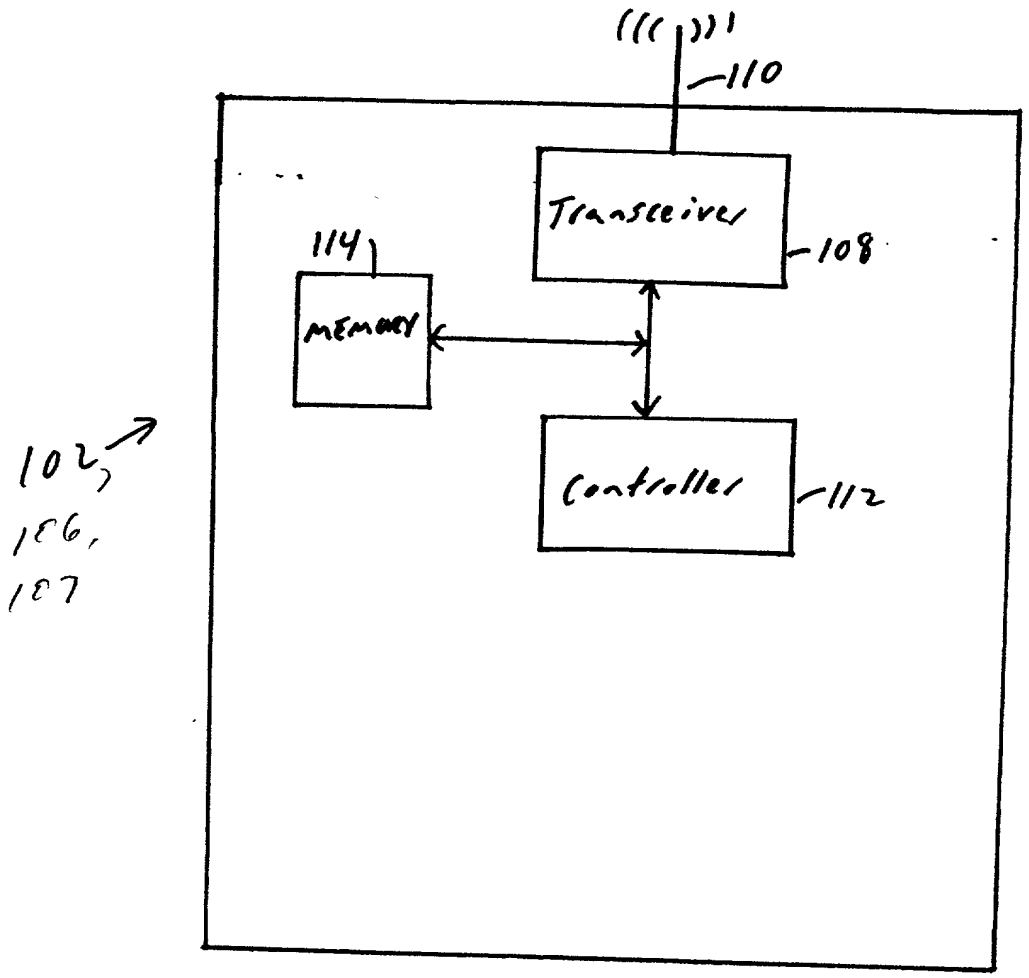

Fig. 2

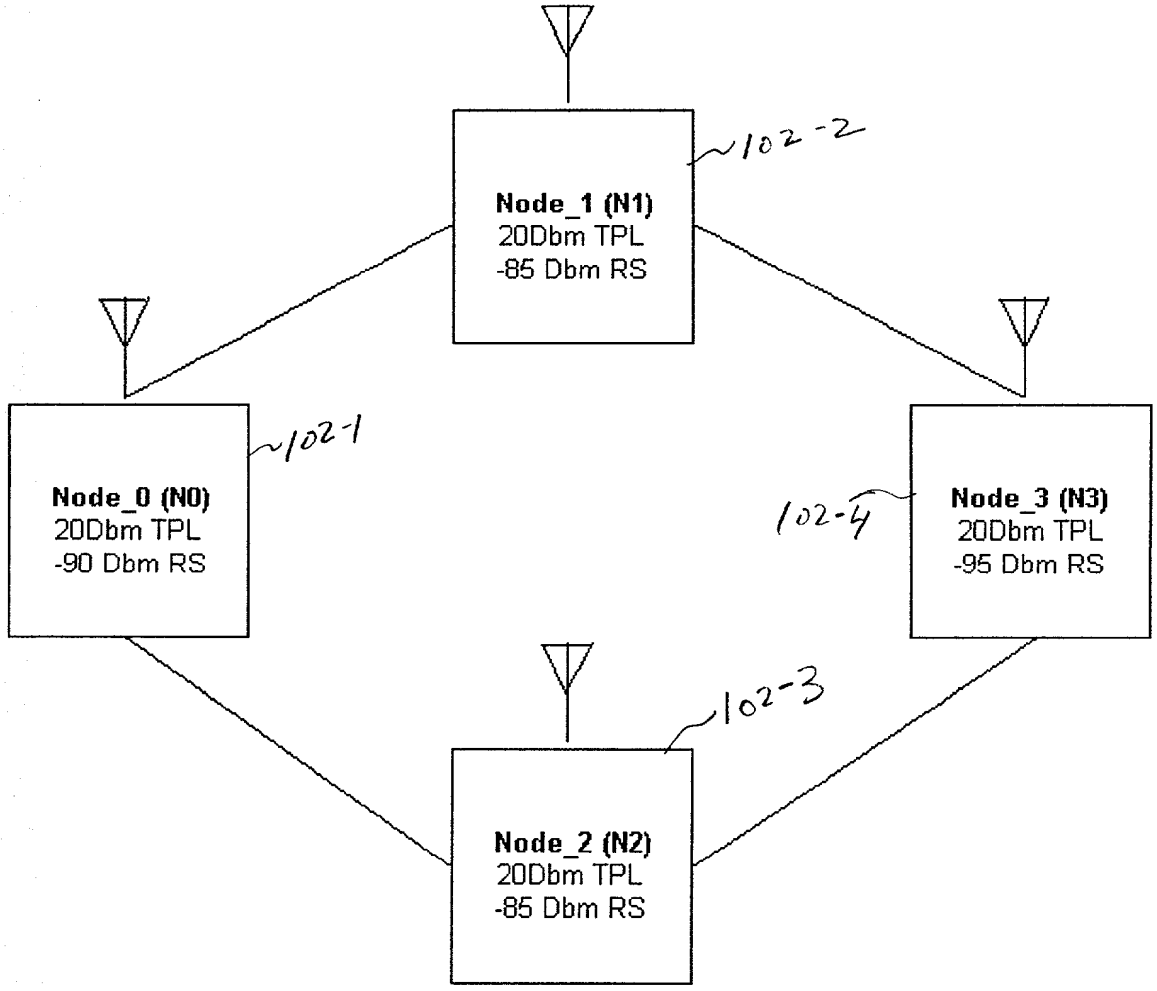
Node_1 (N1)
20Dbm TPL
-85 Dbm RS
102-2
Node_0 (N0)
20Dbm TPL
-90 Dbm RS
102-1
Node_3 (N3)
20Dbm TPL
-95 Dbm RS
102-4
Node_2 (N2)
20Dbm TPL
-85 Dbm RS
102-3

FIG. 3

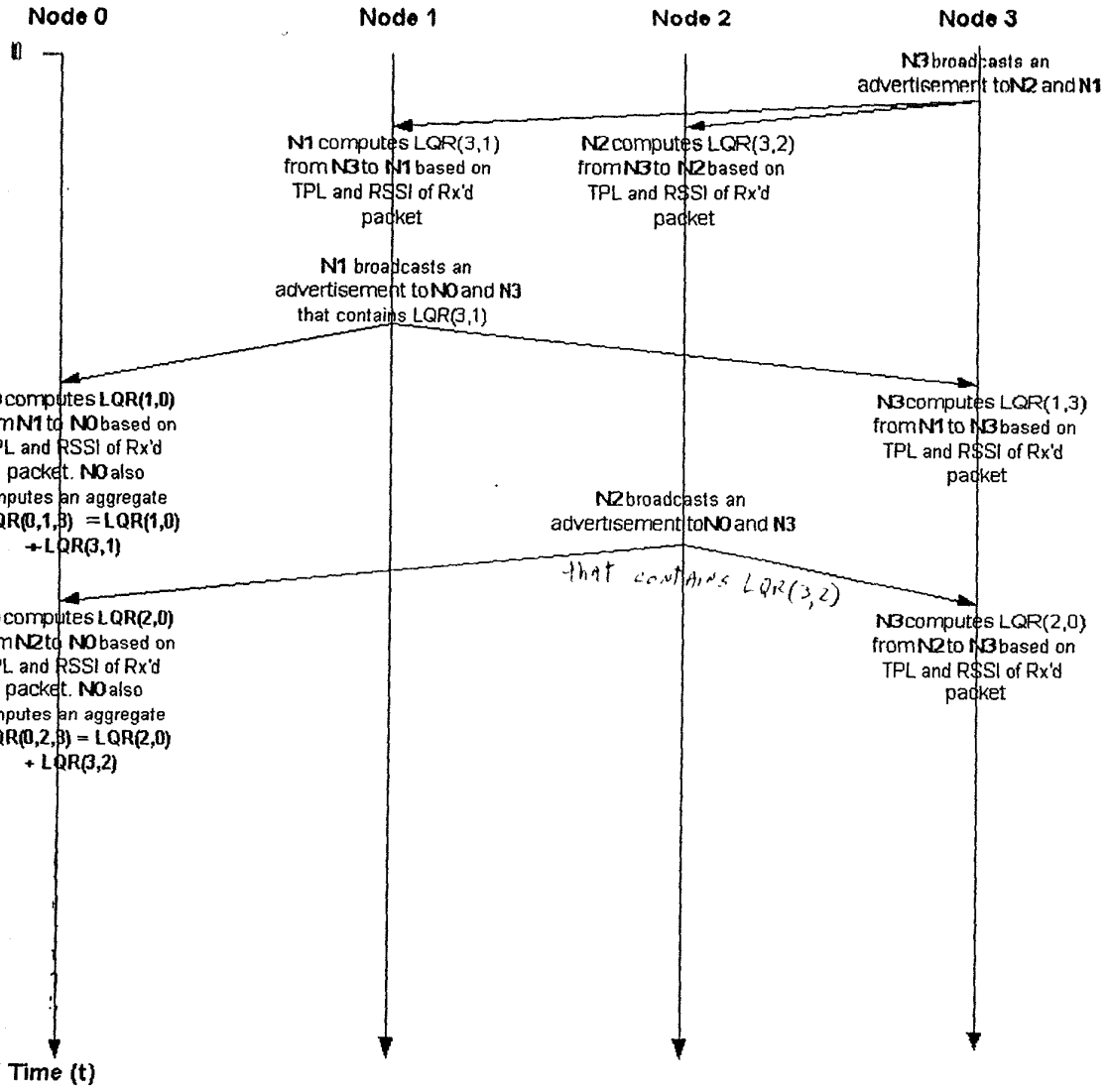
Node 0
Node 1
Node 2
Node 3
N3 broadcasts an advertisement to N2 and N1
N1 computes LQR(3,1) from N3 to N1 based on TPL and RSSI of Rx'd packet
N2 computes LQR(3,2) from N3 to N2 based on TPL and RSSI of Rx'd packet
N1 broadcasts an advertisement to N0 and N3 that contains LQR(3,1)
N0 computes LQR(1,0) from N1 to N0 based on TPL and RSSI of Rx'd packet. N0 also computes an aggregate ALQR(0,1,3) = LQR(1,0) + LQR(3,1)
N3 computes LQR(1,3) from N1 to N3 based on TPL and RSSI of Rx'd packet
N2 broadcasts an advertisement to N0 and N3
that contains LQR(3,2)
N0 computes LQR(2,0) from N2 to N0 based on TPL and RSSI of Rx'd packet. N0 also computes an aggregate ALQR(0,2,3) = LQR(2,0) + LQR(3,2)
N3 computes LQR(2,0) from N2 to N3 based on TPL and RSSI of Rx'd packet
Time (t)

FIG. 4

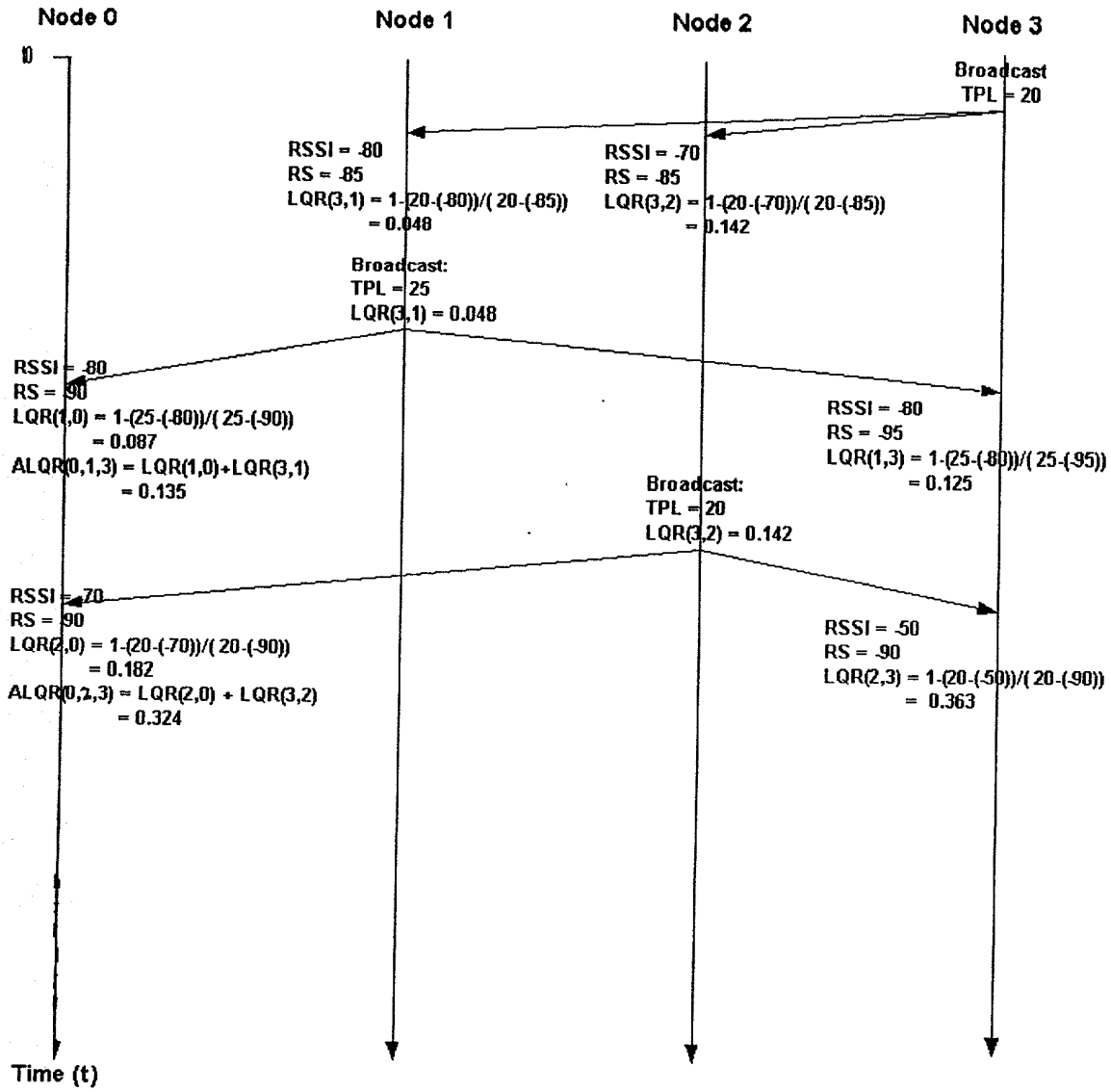
Node 0
Node 1
Node 2
Node 3
Broadcast
TPL = 20
RSSI = -80
RS = -85
LQR(3,1) = 1-(20-(-80))/(20-(-85))
= 0.048
RSSI = -70
RS = -85
LQR(3,2) = 1-(20-(-70))/(20-(-85))
= 0.142
Broadcast:
TPL = 25
LQR(3,1) = 0.048
RSSI = -80
RS = -90
LQR(1,0) = 1-(25-(-80))/(25-(-90))
= 0.087
ALQR(0,1,3) = LQR(1,0)+LQR(3,1)
= 0.135
RSSI = -80
RS = -95
LQR(1,3) = 1-(25-(-80))/(25-(-95))
= 0.125
Broadcast:
TPL = 20
LQR(3,2) = 0.142
RSSI = -70
RS = -90
LQR(2,0) = 1-(20-(-70))/(20-(-90))
= 0.182
ALQR(0,2,3) = LQR(2,0) + LQR(3,2)
= 0.324
RSSI = -50
RS = -90
LQR(2,3) = 1-(20-(-50))/(20-(-90))
= 0.363
Time (t)

FIG. 5